REMARKS

This Application has been carefully reviewed in light of the Final Office Action mailed July 24, 2008. At the time of the Final Office Action, Claims 1-31 and 33-35 were pending in this Application. All pending Claims 1-31 and 33-35 were rejected. Claim 32 was previously canceled without prejudice or disclaimer. Claims 1, 10, 12-14, 25, 30, and 33-35 have been amended. Applicants respectfully request reconsideration and allowance of all pending Claims 1-31 and 33-35.

Claim Objections

The Examiner objected to Claims 12, 13, and 33-35 because of informalities. Applicants have amended claims 12, 13, and 33-35 accordingly, and request that the objections be withdrawn.

Rejections under 35 U.S.C. §103

Claims 1-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,355,149 issued to Mark W. Casebolt ("*Casebolt*") in view of U.S. Patent 4,703,316 issued to Terry G. Sherbeck ("*Sherbeck*").

Applicants respectfully submit that *Casebolt* and *Sherbeck*, whether considered alone or in combination, do not teach every element of Applicants' claims as amended, as discussed below.

Amended Claim 1

Amended Claim 1 recites, in part:

> a first triangular zone and a second triangular zone partially overlapping with the first triangular zone to define a first overlap region, the second triangular zone not sharing any vertex with the first triangular zone; and
>
> a third triangular zone and a fourth triangular zone partially overlapping with the third triangular zone to define a second overlap region, the fourth triangular zone not sharing any vertex with the third triangular zone, the second overlap region at least partially overlapping with the first overlap region; and
>
> wherein the touch event lies within at least the first overlap region and the second overlap region; and
>
> (emphasis added)

The Examiner acknowledges that *Casebolt* does not teach triangular zones, but alleges that *Sherbeck* teaches such features. (Final Office Action, pages 6-7). The Examiner then equates the following alleged "zones" of *Sherbeck* with the first, second, third, and fourth zones of Claims 1:

- "first triangular zone" of Claim 1 is allegedly taught by Fig. 1, items "first" and "second zone" of *Sherbeck*;
- "second triangular zone" of Claim 1 is allegedly taught by Fig. 1, items "first" and "fourth zone" of *Sherbeck*;
- "third triangular zone" of Claim 1 is allegedly taught by Fig. 1, item "first zone" of *Sherbeck*; and
- "fourth triangular zone" of Claim 1 is allegedly taught by Fig. 1, part of items "first" and "fourth zone" of *Sherbeck*.

Each of these alleged triangular zones of *Sherbeck* share two common vertices, namely the upper left corner (at LED D0) and the upper right corner (at LED D1). Thus, *Sherbeck* cannot meet the elements of amended Claim 1: "the second triangular zone not sharing any

vertex with the first triangular zone" and "the fourth triangular zone not sharing any vertex with the third triangular zone."

For at least these reasons, as well as reasons presented in Applicants' previous Response to Office Action, Applicants respectfully request reconsideration and allowance of amended Claim 1, as well as Claims 2-9 that depend from Claim 1.

Amended Independent Claim 10

Amended independent Claim 10 recites, in part:

> 10. A method of determining the location of a touch event within a display area surrounded by a touch frame having a plurality of light emitting elements and a plurality of light receiving elements forming a plurality of triangular zones of light beam paths, each triangular zone being defined by a single light receiving element and a plurality of light emitting elements, the number and positioning of receivers being sufficient to form partially overlapping zone pairs such that the touch event lies within at least two zone pairs, said method comprising:
> (emphasis added)

Sherbeck does not teach "each triangular zone being defined by a single light receiving element and a plurality of light emitting elements," as recited in amended Claim 10. Just the opposite, *Sherbeck* teaches triangular zones defined by a *single light emitter* (one of LEDs D0-D3) and an *array of light detectors* (one of arrays T_R and T_L). (col. 2, lines 22-37; Figure 1). This difference is meaningful in at least some embodiments or applications. For example, Applicants discuss the advantage of using a reduced number of light emitting detectors in embodiments using relatively expensive IrDA light receivers. (*see, e.g.*, Applicants' Specification, page 7, lines 23-27). *Casebolt* also does not teach these features of amended Claim 10.

For at least these reasons, Applicants respectfully request reconsideration and allowance of amended Claim 10, as well as Claims 11-13 that depend from Claim 10.

Amended Independent Claim 14

14. A touchframe system comprising:

a plurality of touchframe corners and a plurality of opposed perimeter sections;

a plurality of triangular zones, each including a row of at least three light emitting elements positioned along one of the perimeter sections and an associated light receiving element positioned along the perimeter section opposite the light emitting elements, each light emitting element and associated light receiving element defining a light beam path;

wherein a particular triangular zone includes (a) a first light receiving element positioned at a first corner of the touchframe and (b) a row of first light emitting elements, each of the first light emitting elements aimed at a midpoint between (a) the first light receiving element and (b) a second light receiving element positioned at a second corner of the touchframe adjacent the first corner;

(emphasis added)

The Examiner alleges that "Sherbeck teaches of light emitting elements (Fig. 1, item D0) being aimed at a midpoint (Fig. 1, corner where item D2 is located) between two light receiving elements (Fig. 1, items TL0 and TRN)." (Final Office Action, page 4). Although Applicants do not necessarily agree with this assertion, Applicants have amended the Claims to advance prosecution. In particular, as shown above, Claim 14 is amended to recite a triangular zone having a first light receiver at one corner of the touchframe, and multiple light emitters each aimed at a midpoint between the first light receiver and a second light receiver positioned at a second corner of the touchframe adjacent the first corner. Under the Examiner's interpretation of *Sherbeck*, *Sherbeck*'s light emitter D0 is aimed at the lower right corner (near D2), which is the midpoint between the upper right corner (near D1) and lower left corner (near D3), which are opposite corners, not adjacent corners. Thus, even under the Examiner's interpretation, *Sherbeck* does not teach the elements of amended Claim 14 discussed above. *Casebolt* also does not teach these features of amended Claim 14.

For at least these reasons, Applicants respectfully request reconsideration and allowance of amended Claim 14, as well as Claims 15-24 that depend from Claim 14.

Amended Independent Claims 25 and 30

Amended independent Claim 25 recites, in part:

> 25. A method of determining the location of a touch event within a display area surrounded by a touch frame having a plurality of light emitting elements and a plurality of light receiving elements forming a plurality of triangular zones of light beam paths each having a slope and endpoints, each triangular zone defined by a single light receiving element and a plurality of light emitting elements, the number and positioning of receivers being sufficient to form partially overlapping triangular zones such that the touch event is fully located within each of at least four triangular zones having four different associated light receiving elements, said method comprising:
>
> (emphasis added)

The Examiner acknowledges that *Caseboli* does not teach triangular zones, but alleges that *Sherbeck* teaches such features. The Examiner alleges that *Sherbeck* teaches partially overlapping triangular zones and a touch event fully located within at least four different triangular zones, as discussed above regarding the rejection of Claim 1.

Although Applicants do not necessarily agree with the Examiner's assertions, Applicants have amended the Claims to advance prosecution. In particular, as shown above, Claim 25 is amended to recite that each triangular zone is defined by a *single* light receiving element and a plurality of light emitting elements, and that a touch event is fully located within at least four triangular zones having four different associated light receiving elements.

Sherbeck clearly does not teach these features. First, none of the alleged "triangular zones" of *Sherbeck* defined by the Examiner is defined by a *single* light receiving element. Just the opposite, as discussed above regarding Claim 10, *Sherbeck* teaches triangular zones defined by a single light emitter (one of LEDs D0-D3) and an *array of light detectors* (one of arrays T_R and T_L). (col. 2, lines 22-37; Figure 1). Second, even if it were somehow possible to swap *Sherbeck*'s light emitters with *Sherbeck*'s light detectors such that each triangular zone included only a single detector (rather than a single emitter), at least three of the alleged "triangular

zones" of *Sherbeck* defined by the Examiner (the alleged second, third, and fourth zones) would include the *same detector*. Thus, *Sherbeck* could not teach a "touch event is fully located within each of at least four triangular zones having four different associated light receiving elements," as recited in amended Claim 25.

For at least these reasons, Applicants respectfully request reconsideration and allowance of amended Claim 25, as well as Claims 26-29 depend from Claim 25. In addition, for analogous reasons, Applicants respectfully request reconsideration and allowance of amended Claim 30, as well as Claims 31 and 33-35 that depend from Claim 30.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of Claims 1-31 and 33-35 as amended.

Applicants respectfully submit a Request for Continued Examination and the Commissioner is authorized to charge the amount of $810.00 required to Deposit Account 50-2148 in order to effectuate this filing. Applicants believe there are no other fees due at this time; however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2689.

Respectfully submitted,
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